

FIG. 1

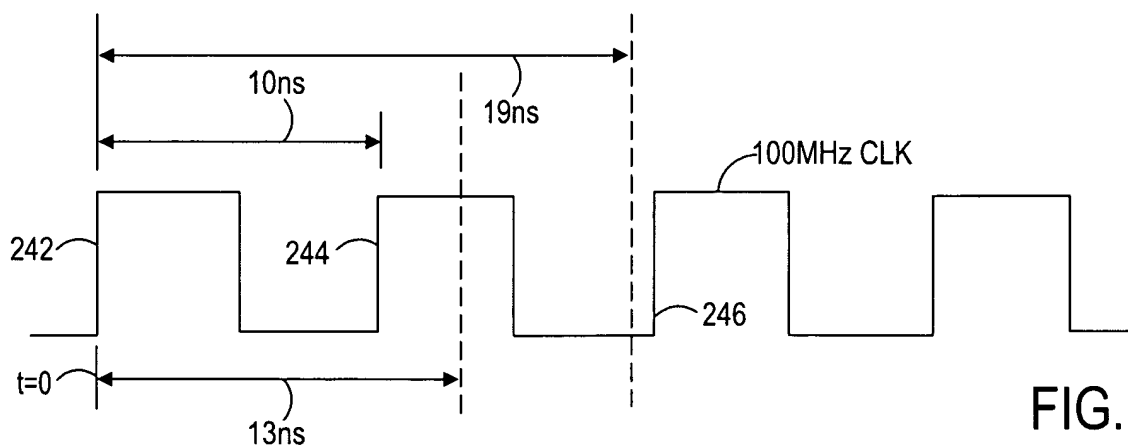


FIG. 2

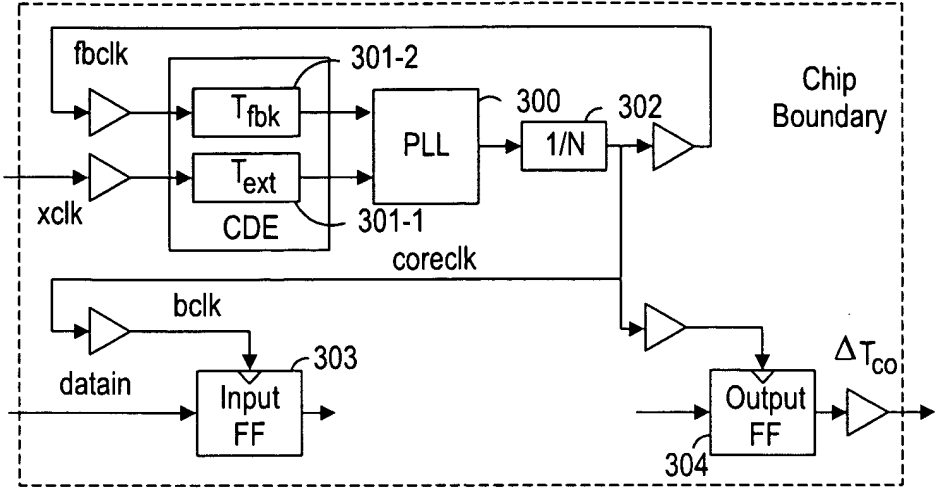


FIG. 3

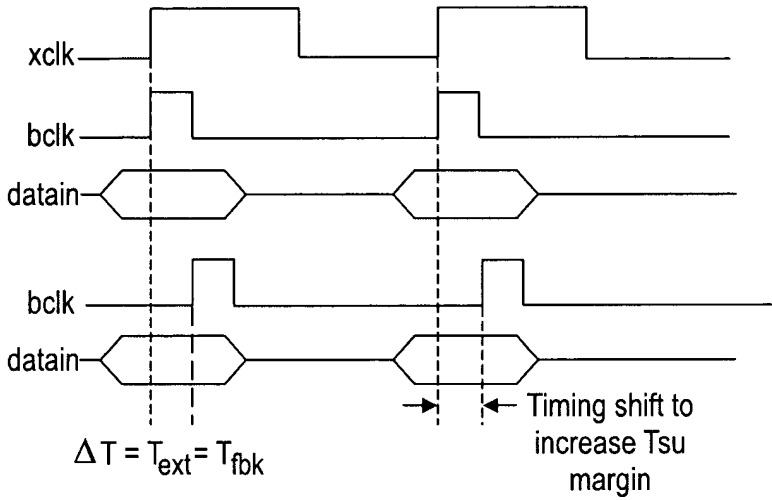


FIG. 4

| Fix | Margin On | Action | Add ΔT_{co} |
|---------|-------------|-------------|---------------------|
| Tsu | Too,max,Th | π_{ext} | - |
| Th | Too,min,Tsu | π_{fbk} | - |
| Th | - | π_{fbk} | Yes |
| Tco,max | Tsu | π_{fbk} | - |
| Tco,min | Th | π_{ext} | - |
| Tco,min | - | π_{ext} | Yes |

FIG. 5

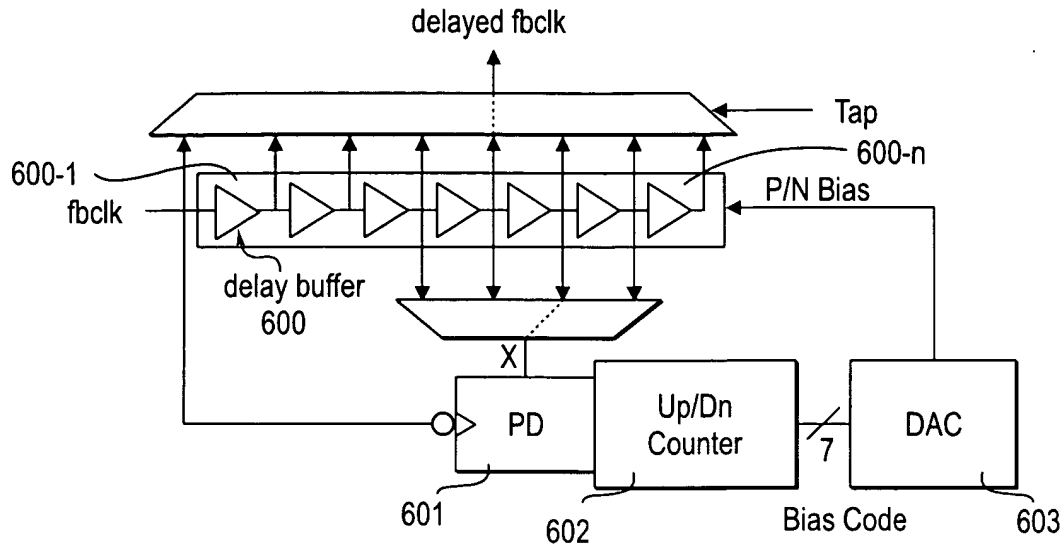


FIG. 6A

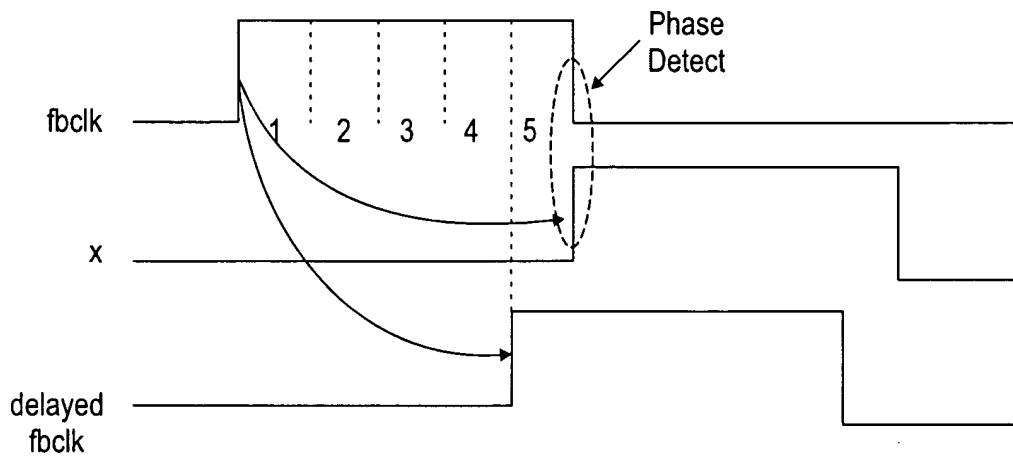


FIG. 6B

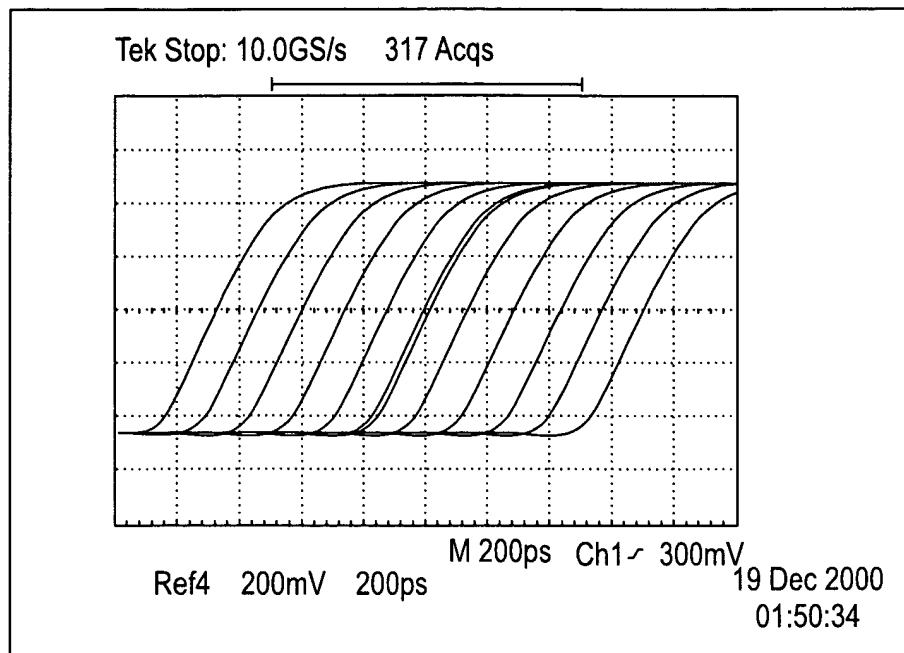


FIG. 7

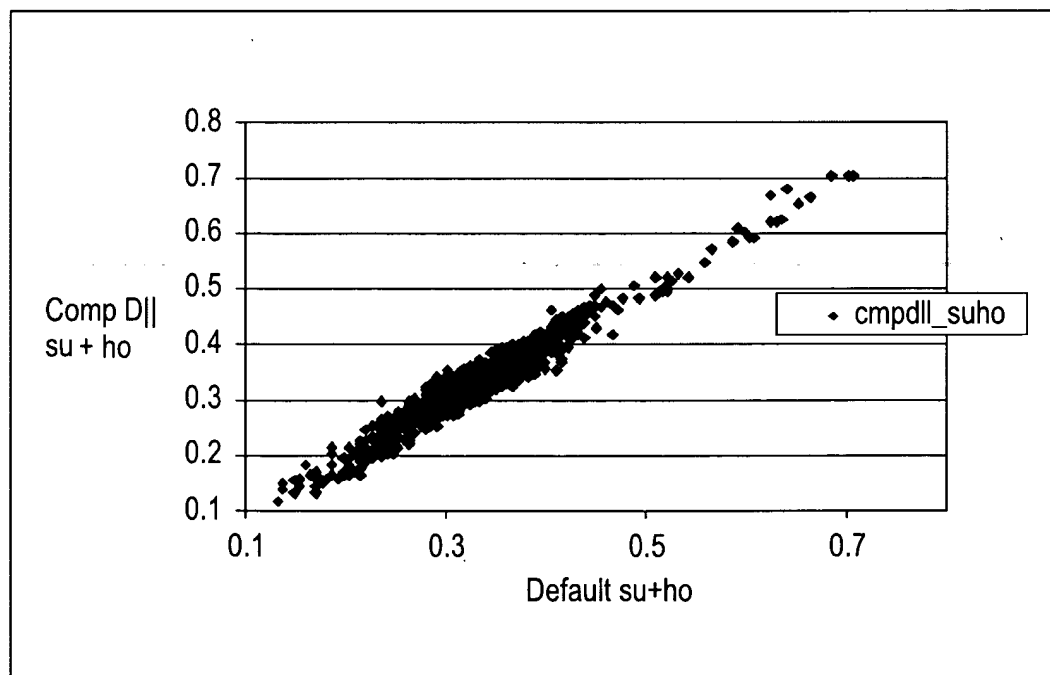


FIG. 8

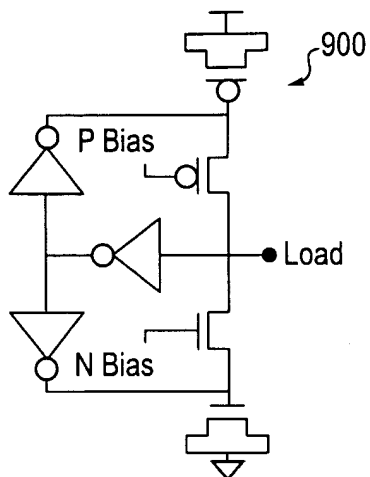


FIG. 9

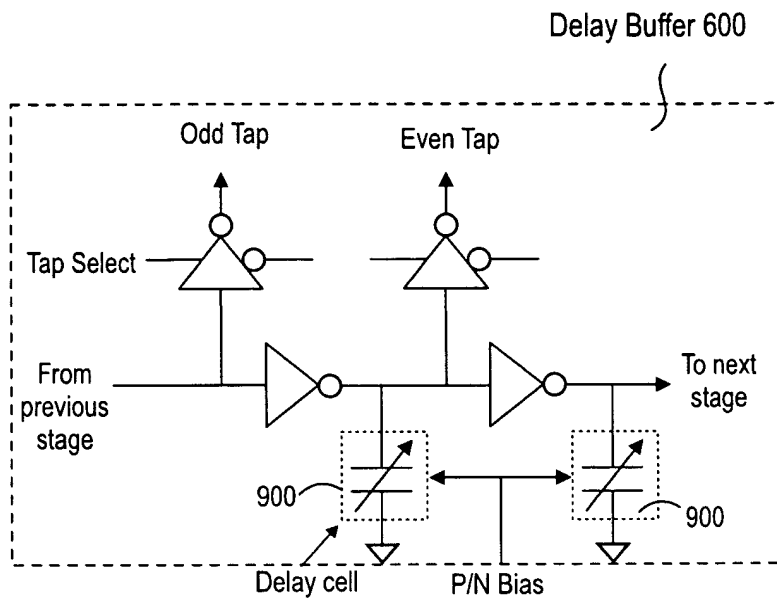


FIG. 10

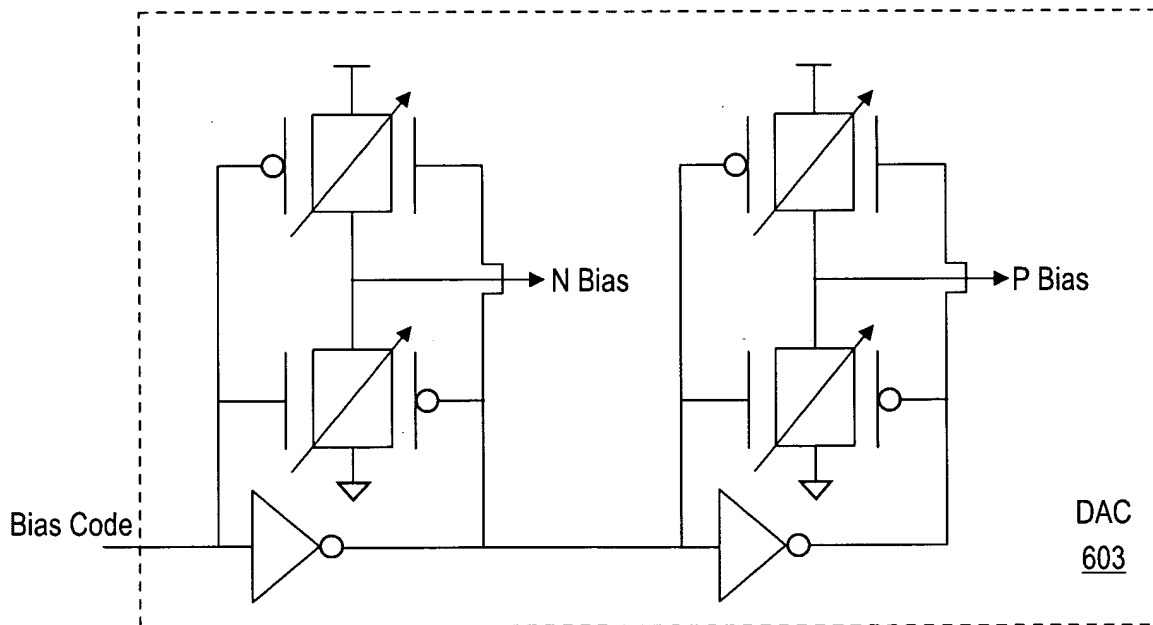
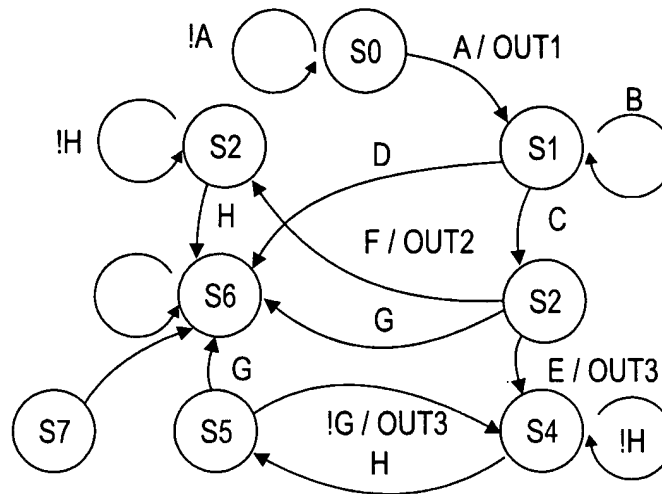
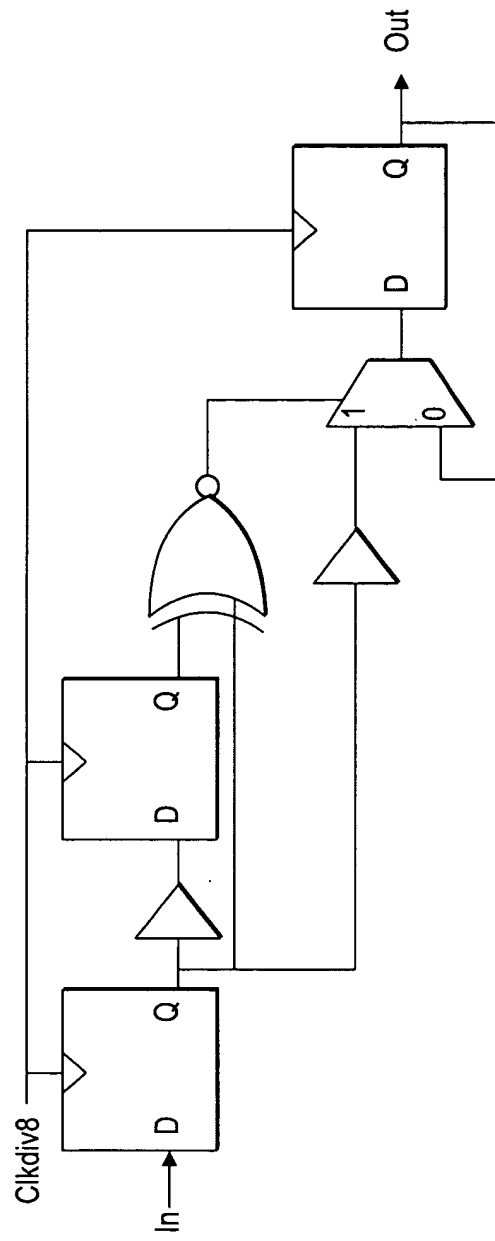
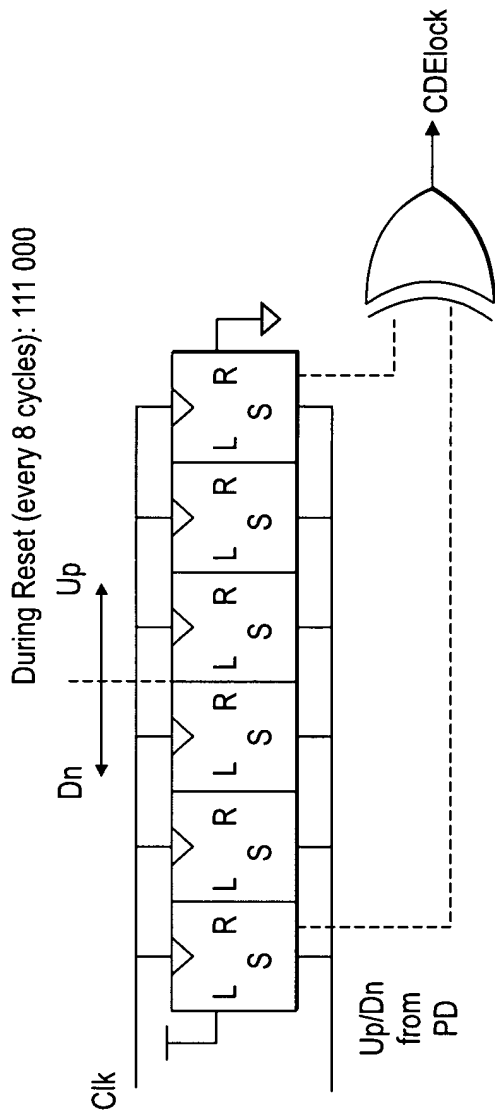


FIG. 11



| | |
|------|------------------------------------------------|
| Ⓐ | : Pwrgd |
| B | : (!CDElock·PLLlock) + !PLLlock |
| C | : CDElock·PLLlock-FSMen |
| D | : PLLlock·!FSMen |
| E | : !TapEqFuse·!Mlock |
| F | : !TapEqFuse·Mlock |
| G | : TapEqFuse |
| H | : PLLlock |
| OUT1 | : if (FSMen), Tap = 000; Else Tap = Fuse Value |
| OUT2 | : Tap = Fuse Value |
| OUT3 | : Tap = Tap + 1 |

FIG. 12



| Condition | Voltage | Bias Code |
|-----------|---------|-----------|
| 95nm,95°C | 1.10V | 1000101 |
| (Slow) | 1.25V | 0110011 |
| | 1.40V | 0101100 |

| Condition | Voltage | Bias Code |
|-----------|---------|-----------|
| 75nm,5°C | 1.10V | 0101110 |
| (Fast) | 1.25V | 0100101 |
| | 1.40V | 0011101 |

FIG. 15

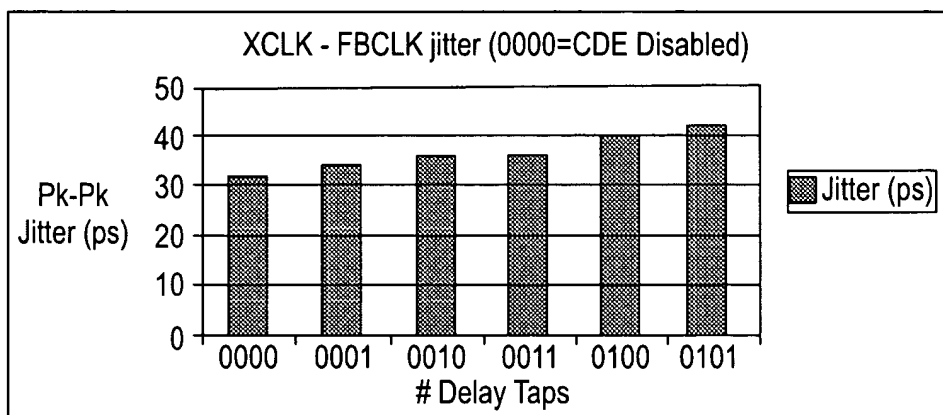


FIG. 16

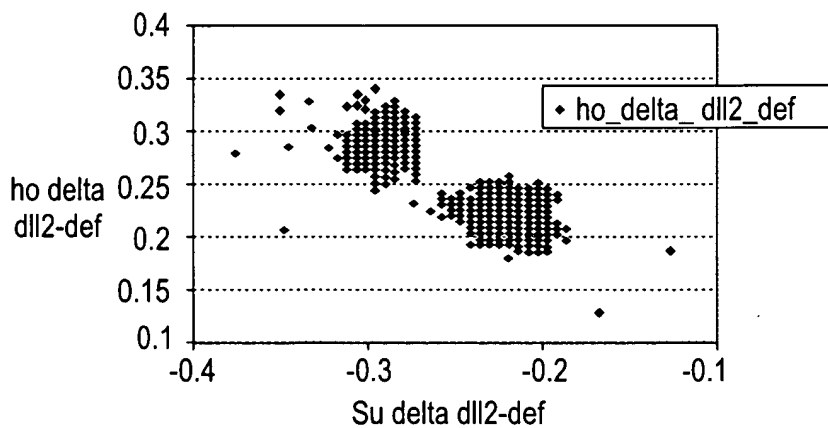


FIG. 17